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4   UNITED STATES DISTRICT COURT

5   NORTHERN DISTRICT OF CALIFORNIA

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7   MARK SHIN,   Case No. 20-cv-07363-WHO

                  Plaintiff,
8
            v.   **ORDER GRANTING DEFENDANT'S
9   MOTION FOR SUMMARY
                                            JUDGMENT AND DENYING
10   ICON FOUNDATION,   PLAINTIFF'S MOTION FOR
                                            SUMMARY JUDGMENT**
                  Defendant.
11   Re: Dkt. Nos. 172, 180

12   Plaintiff Mark Shin exploited a bug in software 557 times to generate cryptocurrency

13   tokens worth $9 million from the ICON Network (the "Network"). Even though he recognizes

14   that the Network was not operating in the way it was intended while he generated those tokens 557

15   times, he nonetheless claims that the tokens belong to him and asserts claims for conversion and

16   trespass to chattels against defendant ICON Foundation ("ICON") because his accounts were

17   frozen and those assets seized after ICON and the Network realized what had happened and

18   identified him. ICON asserts a counterclaim for unjust enrichment. While the cryptocurrency

19   context of this case makes it somewhat unique, the legal principles are clear cut: Shin has no

20   legitimate claim to exclusivity over the bug-generated cryptocurrency that he obtained contrary to

21   the rules and practice of the Network and no right to retain the benefit of his willful decision to

22   exploit what he knew was a flaw in the Network 557 times. Summary judgment will be granted in

23   favor of ICON and against Shin. I will address the remedy stemming from Shin's liability after

24   further briefing.

25   **BACKGROUND**

26   **A.   The ICON Network**

27   A digital currency, often referred to as "cryptocurrency," is maintained by a decentralized

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1   network of participant's computers instead of a centralized bank, government, or organization.

2   *See* Second Amended Complaint ("SAC") [Dkt. No. 58] ¶ 26. Anyone can join his or her

3   computer to the network the currency uses by installing and running software that allows the

4   computer to communicate with the network and, consequently, interact with the digital currency

5   that network uses. Transactions on that network between participants get recorded on a

6   "blockchain," which serves as a public database of digital currency transactions. *Id.* ¶ 21.

7   The Network describes itself as a "next generation blockchain protocol" for "decentralized

8   applications." ICON's First Amended Counterclaim [Dkt. No. 100] ¶¶ 8, 10.   It hosts a "delegated

9   proof of stake" blockchain which allows for the creation of a cryptocurrency called ICX.

10   Declaration of Min Kim ("Kim Decl.") [Dkt. No. 174] ¶ 7. Since 2018, the Network has been

11   governed by a body of "at least twenty-two . . . independent representatives," ICON being one. *Id.*

12   ¶ 5.

13   ICON is a Swiss foundation with its principal place of business in Zug, Switzerland. *Id.* ¶

14   4. It was created to "promote, develop, and support the ICON Network." *Id.* ICON is the largest

15   holder of ICX; today it owns approximately 8% of all ICX tokens. *Id.* ¶ 12. According to ICON,

16   it "does not control, has not controlled and cannot control any other member of that governing

17   body[.]" *Id.* ¶ 5. ICON was responsible for launching the Network, and it has been "integral in its

18   development." *Id.*

19   The Network has a constitution to which all users are subject. *See* Dkt. No. 186-2 (ICON

20   Constitution). That constitution asserts that its users (which it refers to as "ICONists") are to

21   "strive to ensure that the ICON Network runs properly," and that all users shall "oppose any

22   transgression against the ICON Network." *Id.* at 8.

23   **B.   ICON Governance**

24   All ICX holders can contribute to the Network's operation in governance, which is enabled

25   in part by selecting delegates (called "Public Representatives" or "P-Reps") who run the Network

26   computers and servers. Kim Decl. ¶¶ 5, 14. The Network employs a "Delegated-Proof-of-Stake"

27   consensus method to manage and verify transactions on the Network. *Id.* ¶ 17. This method

28   involves ICX holders electing entities called "Main P-Reps," who "obtain the right to produce

1   blocks, govern, and validate the data or state of the Network." *Id.* In 2020, there were 22 Main P-

2   Reps. *Id.* ¶ 60.

3   　　　　The Main P-Reps are selected by a process called "staking" and "delegation." Kim Decl. ¶

4   17. During staking and delegation, any ICX token holder may commit his or her tokens as votes

5   for a Main P-Rep. *Id.* The delegates who receive the highest volume of staked ICX from ICX

6   holders are elected as Main P-Reps, meaning they can validate transactions and govern the

7   Network. *Id.* Per the terms of the ICON Constitution, all P-Reps, including the Main P-Reps, are

8   "obliged to protect the [ICON] ecosystem from . . . risks" that include "all forms of criminal

9   activity and abuse, such as network failures, attacks, fraud and collusion." ICON Const. at 14.

10   　　　　While ICON tokens are staked and delegated by holders, the tokens are locked in the

11   holder's wallet until such a time as the holder decides to stop using the tokens to indicate their

12   support for one P-Rep or another. *Id.* ¶¶17-18. At that point, the holder "undelegates" the staked

13   tokens, and then "unstakes" them. *Id.* ¶ 18. It typically takes about seven days to complete the

14   unstaking process. *See* Kim Decl. ¶ 18; Ryu Decl. ¶ 23.

15   　　　　**C.　　The Role of Rewards in ICON Governance**

16   　　　　To encourage ICX holders to participate in this staking process, the ICON Network

17   rewards users who stake their ICX tokens. The Network software calculates a reward score, called

18   "I-Score," for ICX holders who participate in staking and delegating. The rewards system is

19   publicized. *See* Kim Decl. ¶ 18; *see id.* Ex. 1 (ICON Whitepaper discussing "ICON Incentives

20   Scoring System") at 26-29.

21   　　　　To earn ICX rewards, the holder must delegate staked ICX to one or more P-Rep. ICON

22   describes the staked reward program as being similar to an interest-bearing bank account, in that

23   "[j]ust as a bank customer accrues and receives interest at the applicable rate based on the balance

24   of funds deposited into the account for as long as the funds remain on deposit, ICX holders receive

25   staking rewards based on the number of ICX they have staked and delegated for as long as the

26   ICX remains staked and delegated." Kim Decl. ¶ 18. The Network continually calculates I-Score

27   rewards based on the frequency and volume of a holder's staking activity. *See* Kim Decl. Ex. 2.

28   　　　　To delegate tokens to a selected P-Rep, ICON token holders use a cryptocurrency "wallet."

1   *Id.* ¶ 21. A wallet is a "simple user interface on which a token holder can interact with the

2   Network." The holder can redeem his or her I-Score for ICX. Kim Decl. ¶ 22; Ryu Decl. ¶ 12.

3   Typically, an ICX holder earns no rewards on tokens he or she merely unstakes or undelegates.

4   *See* Kim Decl. ¶¶ 20, 23.

5   When the ICX token launched in 2018, there were 800,430,000 tokens, which included

6   millions of tokens not yet in circulation. *Id.* ¶ 24. Today, the current total supply of ICX is just

7   over 1 billion. *See id.* There is no set limit on the supply of ICX. Since 2019, the Network has

8   been programmed to continually generate new ICX tokens at a set rate. *Id.* ¶¶ 23-25. In 2020,

9   before Revision 9 was released to the Network software, the Network was programmed to mint 36

10   million new ICX annually to be used to reward those who contributed to the governance of the

11   Network. *Id.* After the Network creates newly minted ICX, it sends those tokens to the Public

12   Treasury. According to Kim, ICON's self-described "informal" CEO, the tokens can then only be

13   claimed in exchange for contributions to Network governance. *Id.*; *see also* Deposition of Min

14   Kim ("Kim Depo.") [Dkt. No. 186-4] at 24:14-19. The value of ICX depends in part on its

15   scarcity. *Id.* ¶ 34; Declaration of Christopher Wagner ("Wanger Decl.") [Dkt. No. 173] Ex. 1

16   (Deposition of Mark Shin ("Shin Depo.")) [Dkt. No. 173-1] at 97:14-99:11.

17   **D.   The Revision 9 Bug**

18   Today the Network is made up of 25 Main P-Reps who have the responsibility of creating

19   and voting on Network proposals, producing blocks for the Network, and developing and

20   promoting the Network. *Id.* ¶ 27. ICON has been a Main P-Rep since 2018. A majority of the

21   Main P-Reps must approve any software that the Network runs. *Id.* ¶ 31. The software that runs

22   on the Network is developed by ICON in contract with ICONLoop, Inc. (now known as "Parameta

23   Corp." or "Parameta"). Parameta is the primary developer for ICON Network's software. *Id.*

24   In 2020, responding to ICX holders' requests, Parameta developed a software update

25   known as "Revision 9," which, among other things, enabled a new feature on the Network known

26   as the "Multiple Unstaking Period" function. *Id.* ¶ 33. Revision 9 was supposed to allow Network

27   users to make several unstaking requests at one time, which was previously impossible. *Id.* The

28   Main P-Reps, including ICON, approved Revision 9. *Id.* ¶ 33.

1   Revision 9 contained a software defect that was unknown to the Main P-Reps when they

2   deployed it. *See* Kim Decl. ¶¶ 36, 42-45, 63; Ryu Decl. ¶ 18, 21. That software defect affected

3   less than 0.05% of all ICON accounts. Kim Decl. ¶ 73. Before the software defect was fixed,

4   those affected accounts were able to generate tokens equal in number to the number of tokens the

5   user "unstaked." *See id.*; *see also* Ryu Decl. ¶ 37.

6   **E.   Shin's Exploitation of the Revision 9 Bug**

7   Shin's was among the accounts affected by the Revision 9 bug. On August 22, 2020, Shin

8   was unstaking 25,000 ICX tokens. He used the "SetDelegation" function, which allows users to

9   redelegate tokens from one P-Rep to another. Typically, Shin would have received no additional

10   tokens for this action. *See* Kim Decl. ¶¶ 45. Shin knew this. *See* Shin Depo. at 91:5-25. But on

11   August 22, when he unstaked 25,000 tokens, the Network generated 25,000 new ICX tokens and

12   made them immediately available to him.[1] *Id.*

13   Shin repeated the process of unstaking 25,0000 tokens 557 times. *See* Shin Depo. at

14   161:19-25. Each time, the Network delivered 25,000 new tokens to him. *Id.* While he was doing

15   this, he transferred much of the ICX into different accounts at different cryptocurrency exchanges.

16   *Id.* at 240:17-243:6. He also transferred a lot of the bug-generated ICX to his family and friends.

17   *See* Dkt. No. 173, Ex. 5 at 7-8. By receiving 25,000 new tokens 557 times, he caused the total

18   number of circulating ICX to increase by almost 14 million tokens. *See* Kim Decl. ¶¶ 45, 87; Ryu

19   Decl. ¶ 23. While other Network users also took advantage of the bug to generate tokens, Shin

20   was responsible for the vast majority of the bug-generated ICX.[2] Kim Decl. ¶ 77; Ryu Decl. ¶ 41.

21   **F.   The Main P-Reps' Response to Shin's Actions**

22   When ICON became aware of Shin's actions, it conferred with other P-Reps about how to

23   respond. Kim, in his capacity as "informal" ICON CEO, suggested that ICON propose to the

24   other Main P-Reps that they approve a software update to fix the bug and to blacklist Shin's

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26   _____

27   [1] I will refer to the ICX tokens generated as a result of Shin's exploitation of the Revision 9 bug as
     the "bug-generated ICX."

28   [2] At oral argument, counsel for plaintiff contested ICON's position that Shin was responsible for
     85% of the bug-generated ICX but conceded that he was responsible for the vast majority of them.

1   wallets. *See* Dkt. No. 186-8 (internal ICON communications); Kim Decl. ¶ 50; Ryu Decl. ¶ 29.

2   ICON did so. The Main P-Reps agreed and voted to approve and deploy a software update, called

3   Revision 10. Revision 10 was intended to remove the Revision 9 bug that was causing the ICX to

4   mistakenly generate and to "blacklist" the wallet associated with the account that took advantage

5   of the bug 557 times. It did both and froze approximately 6.7 million bug-generated ICX in Shin's

6   crypto wallets. *See* Kim Decl. ¶ 64.

7   **G.   The Aftermath**

8   On August 19, 2020, there were approximately 550 million ICX tokens in circulation

9   worldwide. Kim Decl. ¶ 86. After Shin's actions, three days later there were approximately 14

10   million more tokens in circulation. *Id.* The total supply of ICX tokens increased by

11   approximately 2.5%. Approximately a week after Shin created the bug-generated ICX and after

12   ICON posted a blog article explaining what had happened on August 22, 2020, the price of ICX

13   tokens began to drop. *See* "Network Update: Revision 10" ICON Foundation (Aug. 24, 2020),

14   https://www.icon.foundation/blog/2020/network-update-revision-10-b0ce0bd68cbe/. In the weeks

15   following, the price of ICON's currency decreased by roughly 40%. *Id*. ¶ 87.

16   After Shin was identified as the person behind the misappropriation, a Main P-Rep, Ricky

17   Dodds, contacted him. Dodds told him that the ICON community knew that he was responsible

18   for the large number of bug-generated ICX and warned that ICON intended to involve law

19   enforcement if he did not return them. *See* Declaration of Ricky Dodds ("Dodds Decl.") [Dkt. No.

20   176] ¶ 31; Shin Depo. at 199:2-200:14. Dodds said that ICON was willing to pay Shin a "bug

21   bounty" of $200,000 in exchange for his return of the bug-generated ICX. Shin refused the offer.

22   *See* Shin Depo. at 199-200.

23   ICON did involve law enforcement. The United States Federal Bureau of Investigation

24   ultimately seized some but not all of the bug-generated ICX and cryptocurrency that was traceable

25   to the bug-generated ICX that Shin had transferred away from his ICON wallets. *See* Wanger

26   Decl. Ex. 6 (affidavit of Special Agent Travis Wall, FBI).[3] A grand jury in the District Court of

27   _____

28   [3] I appointed a Receiver, Ellen London, to oversee the cryptocurrency and fiat currency assets that
the FBI seized. *See* Dkt. No. 133. Ms. London submitted a proposal for how all the at-issue

1   Arapahoe County, Colorado, indicted Shin in 2021, and he was criminally prosecuted for his

2   actions related to the Revision 9 bug. Case No. 2021 CR 001445. After a trial, the jury hung, and

3   the Colorado District Attorney declined to retry Shin and dismissed the criminal action against

4   him on August 4, 2023. *See* Wagner Decl. ¶ 11.

5   Meanwhile, Shin filed this action in October 2020, asserting claims for conversion and

6   trespass to chattels concerning the blacklisted ICX. ICON counterclaimed for unjust enrichment.

7   Both parties now move for summary judgment. *See* ICON's Motion for Summary Judgment

8   ("ICON MSJ") [Dkt. No. 172]; *see also* Shin's Motion for Summary Judgment ("Shin MSJ")

9   [Dkt. No. 180].

10   **LEGAL STANDARD**

11   Summary judgment on a claim or defense is appropriate "if the movant shows that there is

12   no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of

13   law." Fed. R. Civ. P. 56(a). In order to prevail, a party moving for summary judgment must show

14   the absence of a genuine issue of material fact with respect to an essential element of the non-

15   moving party's claim, or to a defense on which the non-moving party will bear the burden of

16   persuasion at trial. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 323, 106 S.Ct. 2548, 91 L.Ed.2d

17   265 (1986). Once the movant has made this showing, the burden then shifts to the party opposing

18   summary judgment to identify "specific facts showing there is a genuine issue for trial." *Id*. The

19   party opposing summary judgment must then present affirmative evidence from which a jury

20   could return a verdict in that party's favor. *Anderson v. Liberty Lobby*, 477 U.S. 242, 257, 106

21   S.Ct. 2505, 91 L.Ed.2d 202 (1986).

22   On summary judgment, the court draws all reasonable factual inferences in favor of the

23   non-movant. *Id*. at 255, 106 S.Ct. 2505. In deciding a motion for summary judgment, "[c]redibility

24   determinations, the weighing of the evidence, and the drawing of legitimate inferences from the

25   facts are jury functions, not those of a judge." *Id*. However, conclusory and speculative testimony

26   does not raise genuine issues of fact and is insufficient to defeat summary judgment. *See Thornhill*

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28   assets would be maintained and preserved, which I approved. *See* Dkt. No. 191. These assets are
     currently under her oversight.

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Northern District of California

1   *Publ'g Co., Inc. v. GTE Corp.*, 594 F.2d 730, 738 (9th Cir. 1979).

2   **DISCUSSION**

3   **I.   CONVERSION**

4   Shin asserts a claim for conversion, alleging that "[t]hrough releasing and implementing

5   Revision 10, [ICON] programmatically targeted and restricted [him] from accessing all the ICX

6   that he kept in his personal ICX wallets," and in so doing, "locked Shin out of . . . accessing his

7   ICX tokens, assuming control over his property, without authorization." SAC ¶ 135. ICON moves

8   for summary judgment on this claim, arguing that, after two years of discovery, the undisputed

9   facts show that Shin's conversion claim fails as a matter of law.

10   **A.   Elements of Conversion**

11   To prevail on a conversion claim, a plaintiff must show "'ownership or right to possession

12   of property, wrongful disposition of the property right and damages.' " *Kremen v. Cohen*, 337

13   F.3d 1024, 1029 (9th Cir. 2003) (quoting *G.S. Rasmussen & Assocs., Inc. v. Kalitta Flying Serv.,*

14   *Inc.*, 958 F.2d 896, 906 (9th Cir. 1992)). Ownership or right of possession is determined by a

15   three-part test: "First, there must be an interest capable of precise definition; second, it must be

16   capable of exclusive possession or control; and third, the putative owner must have established a

17   legitimate claim to exclusivity." *Rasmussen*, 958 F.2d at 903 (footnote omitted); *see also Kremen*,

18   337 F.3d at 1030 (applying three-part test). The parties agree that the bug-generated ICX is

19   capable of precise definition and exclusive control. After all, "property subject to a conversion

20   claim need not be tangible in form; intangible property interests, too, can be converted." *Voris v.*

21   *Lampert*, 7 Cal. 5th 1141, 1151 (2019). They are at odds about the third element of right of

22   possession: whether Shin has a legitimate claim to exclusivity over the bug-generated ICX.

23   **B.   No Legitimate Claim to Exclusivity**

24   When courts consider whether a plaintiff has a legitimate claim to exclusivity over

25   property, they consider whether he has invested substantial time and money into the property at

26   issue, *see Rasmussen*, 958 F.3d at 903, and whether the actions taken to secure the property were

27   themselves legitimate. *See Kremen*, 337 F.3d at 1030. Courts also consider the interests of the

28   public in ensuring that property is obtained through legitimate means. *See id.*

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1   All considerations weigh against Shin. The undisputed facts show that Shin has no

2   legitimate claim to exclusivity over the bug-generated ICX: he did not obtain them via legitimate

3   means and he did not invest time, money, or anything else valuable in their acquisition.

4   Accordingly, he has no ownership or possessory interest in the property that is the subject of his

5   conversion and trespass to chattels claims. This is dispositive to all of Shin's claims and compels

6   me to grant summary judgment in ICON's favor.

7   **1.   Purpose for Generating ICX**

8   The Network "has always be intended to be programmed to only generate new tokens for

9   one purpose: to reward ICX holders who contribute to the governance of the Network." ICON

10 MSJ 7, 19; *see* Kim Decl. ¶¶ 19, 23-25. ICON's informal CEO, Min Kim, testified that when ICX

11 first launched in 2018, there were a finite number of them. Since then, the Network software has

12 been programmed to "continually generate ICX tokens at a set rate." Kim Decl. ¶ 19. Before

13 2020 (when the Revision 9 software was released) the Network was programmed to mint 36

14 million new ICX annually "to be used to reward those who contributed to governance of the

15 Network." Kim Decl. ¶ 19. After the Network creates newly minted ICX, it sends the ICX to the

16 Public Treasury, "where the tokens can be claimed by holders *solely in exchange for their*

17 *contributions to governance of the Network.*" *Id.* ¶¶ 23-25 (emphasis added); Ryu Decl. ¶ 8. ICX

18 holders are "not intended to receive and historically have never received reward tokens for simply

19 either undelegating or unstaking ICX tokens," *see id.* ¶ 23, which is what Shin did to generate the

20 at-issue ICX.

21   Shin argues that the intended purpose for generating tokens is subject to dispute. He

22 contends that "ICON's use of ICX token as a fundraising vehicle contradicts its factual position

23 that new ICX tokens are created by the Network for 'one reason only.'" Shin Oppo. 10:12-14.

24 Not so. While Shin points out that in 2017, ICON "publicly sold and issued new tokens

25 representing 50% of the then-current total ICX supply raising for itself approximately $43 million

26 dollars, very similar to an initial public offering," *see id.* 10:14-16 (quoting Kim Decl. ¶ 10;

27 Cazares Decl. ¶ 4; Oppo. Ex. A (ICON whitepaper)), the 2017 sale was unrelated to the tokens

28 reward system, the malfunctioning of which enabled Shin to generate the at-issue ICX. ICON has

1   shown, and Shin has not effectively refuted, that from the time ICX became available in 2018 after

2   the 2017 issuance, and certainly in 2020, ICON's sole purpose for generating new ICX tokens was

3   to reward users for participation in governance.

4   Users of the Network have an obligation under the ICON Constitution to "strive to ensure

5   that the Network runs properly" and to "oppose any transgression against the ICON Network."

6   ICON Const. at 7 (Article 3, "Duties of the ICONist"). Shin understood on August 22, 2020,

7   when he was generating new ICX tokens by unstaking his existing tokens, that the Network was

8   not operating in the way that it was intended. *See* Shin Depo. at 86, 90-92. He has confirmed that

9   he was "not expecting to see new tokens in [his] wallet just for unstaking," and that he was

10   "surprised to see ICX appear in [his] wallet just for unstaking." *Id.* at 84-88. He knew that what

11   he was doing was *not* staking and delegating, which are the only actions that would typically

12   generate new tokens for a user. *Id*. at 86-89. In fact, he believed the tokens he was generating to

13   be the product of a bug in the system even as he was generating them. *See* Shin Depo. at 90-92 ("I

14   typically think you stake ICX, you own a percent fixed reward, whereas these were more of an

15   anomaly . . . an outlier . . . a once in a lifetime opportunity, I suppose . . . a product of a bug.").

16   When he was generating tokens, Shin understood that his actions were enabled by some kind of

17   glitch in the Network. That is what informs my analysis that he does not have a legitimate claim

18   to exclusivity over the bug-generated ICX. Shin was doing the opposite of ensuring that the

19   Network runs properly and opposing any transgression when he exploited the software bug.

20   **2.   Illegitimate Means of Acquisition**

21   Neither side has found support in the caselaw that is exactly on point regarding whether

22   Shin had a legitimate claim for exclusivity in the bug-generated ICX. But some cases are broadly

23   instructive.

24   Consider *Kremen v. Cohen*, 337 F.3d 1024 (9th Cir. 2003), a seminal exclusive interest

25   case. Kremen, who had lawfully registered an internet domain name, sued the registrar, Network

26   Solutions, for assigning that same domain name to another individual, Cohen, who had

27   deceptively asserted a possessory right over the name. *See Kremen*, 337 F.3d at 1024-25

28   (explaining that Cohen, whom the court described as a "con man," had sent Networks Solutions a

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1   forged letter requesting that it transfer Kremen's domain name to him, and Network Solutions

2   obliged). The Ninth Circuit held that even though Network Solutions did not have a contractual

3   obligation to Kremen that precluded assignment of the domain name to the second registrant,

4   Kremen, as the only rightful registrant, *could* assert a conversion claim against the registrar. *See*

5   *id.*   The court found that "registrants have a legitimate claim to exclusivity" over domain names,

6   observing that "[r]egistering a domain name is like staking a claim to a plot of land at the title

7   office [because] it informs others that the domain name is the registrant's and no one else's." *Id.* at

8   1030. The court also noted that many registrants "also invest substantial time and money to

9   develop and promote websites that depend on their domain names": Ensuring that they could reap

10   the benefits of that investment would reduce uncertainty and encourage such investments,

11   promoting internet growth. *Id.*

12   At a high level, *Kremen* stands for the principle that legitimate claims to exclusivity are

13   established through legitimate means of property acquisition that favor the public interest. That is

14   instructive here. As discussed, ICON generates new tokens for a limited purpose: rewarding those

15   users who participate in its governance by staking and delegating their tokens. The Network does

16   this by allocating reward scores, I-Score, to users who stake and delegate their tokens, which the

17   user can then redeem for ICX. Kim Decl. ¶¶ 20-22. Shin knew this; it was what helped him

18   recognize that what was enabling him to generate new tokens when he merely unstaked his

19   existing tokens was a bug in the Network software. *See* Shin Depo. at 91-92. He called this a

20   "once in a lifetime opportunity," *see id.* at 91:16-17, and proceeded to repeat the process 557

21   times, generating approximately $9 million worth of tokens for himself. He did not exchange

22   earned I-Score for tokens; he generated them by exploiting a bug in the system. This is the kind of

23   solely self-serving pursuit of property that runs counter to public interest as well as the Network's

24   interest.

25   *Kremen*'s predecessor, *G.S. Rasmussen & Assocs., Inc. v. Kalitta Flying Serv., Inc.*, 958

26   F.2d 896, 906 (9th Cir. 1992), is also instructive. There, the Ninth Circuit considered what makes

27   a property interest. It observed in a footnote:

28   "Opinions defining property for takings purposes often use the phrase
     'reasonable investment-backed expectations' to describe such claims.

United States District Court
Northern District of California

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> The phrase aptly describes the nature of the interest needed to establish property rights for purposes of California law. The degree of investment—monetary or otherwise—is relevant, especially when dealing with intangibles, in determining whether the purported owner has developed a stake in the thing sufficient to warrant invoking the protections of the law of property." *Rasmussen*, 958 F.2d at 903, n. 13 (internal citations omitted).

The *Rasmussen* court considered the "time and effort" that the plaintiff put into obtaining the property at issue in that case. *See id.* at 903 ("Rasmussen expended considerable time and effort in research and design [of the property at issue]"). But it also observed that, particularly when "dealing with intangibles," whether a plaintiff has a legitimate claim to exclusivity depends on "the degree of investment" the plaintiff has put into that property. That leaves open a broad range of factors for courts to consider, not just time and effort.

Shin did not invest time, money, effort, or anything else in the bug-generated ICX. He admits that he knew he was receiving the bug-generated ICX through some kind of flaw in the Network. He described it as a "lucky windfall," and testified that he thought the first time it happened a "visual bug" was responsible, and that the ICX was "invalid." Shin Depo. at 276:11-23. He even told his father that he "found a bug that [was letting him] mint free tokens." *Id.* at 153:12-15. Investment costs something. It is not free.

Despite all of this, Shin insists that the way that he generated the at-issue ICX was not illegitimate. He argues that he was only ever operating within the bounds of the Network, stating that he "obtained all of his Newly Generated ICX making lawful and approved use of a 'decentralized' Network that he was authorized to use in an unlimited capacity." *See* Shin Oppo. 21:11-10; *see also* Robilliard Decl. ¶¶ 9-10. He denies performing "any harmful or morally unjustified 'exploitation' that would delegitimize his lawful claim" because he discovered the bug by accident and did not take any action to exceed his level of authorization within the Network. *See* Shin Oppo. 16:22-17:2; Shin Decl. ¶¶ 3, 9. In short, Shin does not dispute that he replicated a value-generating transaction for his benefit—he denies that behavior was "exploitation" in what his counsel described as a "decentralized ecosystem."

I will not debate morality with Shin. But his actions were not "authorized" by the Network. Revision 9 contained a bug. A bug belies authorization. As discussed at oral argument,

1 that the Main P-Reps approved the software update with an unknown bug that enabled Shin's

2 profit does not suggest that his actions were authorized.[4]

3 No matter what type of "ecosystem" Shin was operating in, he has no legitimate claim to

4 the bug-generated ICX. He deliberately took advantage of what he understood to be a glitch in the

5 Network's system to enrich himself, and he cashed in 557 times. He exploited the bug in a way

6 that undermined the Network's reward system, which was designed to encourage ICON users to

7 participate in governance of the Network. He used the bug to generate millions of dollars' worth

8 of tokens for himself. He did not earn the ICX through contributions to the Network and did not

9 redeem any I-Score to obtain them or provide other consideration for the ICX he generated.[5]

10 The Ninth Circuit in *Rasmussen* emphasized the role of investment—monetary or

11 otherwise—in the property over which one asserts an interest. *See supra* (discussing *Rasmussen*,

12 958 F.2d at 903, n. 13 (internal citations omitted)). In *Kremen*, the court sought to encourage

13 legitimate practices, reward investment, disincentivize profit-by-deception, and promote growth in

14 the emerging internet by recognizing that individuals who diligently pursued and legitimately

15 acquired intangible property possessed an interest in that property. *See supra* (discussing *Kremen*,

16 337 F.3d at 1030-31). Shin, on the other hand, did not invest—in any meaningful way—in the

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[4] Shin bridles at being compared to a bank hacker, or a counterfeiter, *see* ICON MSJ 20:1-3, and

19 points out that he did not go looking for a vulnerability in the Network as such actors would but
simply happened upon one and took advantage of it. *See* Shin Oppo. 17. Taking advantage of

20 ICON's mistake does not legitimize what he did. Nor does it make him analogous to a plaintiff
who invests in property over which he later claims a right. *See Rasmussen*, 958 F.2d at 903, n. 13.

21 [5] ICON argues that Shin's failure to give any consideration for the bug-generated ICX further

22 delegitimizes any interest he might have in the ICX. It points out that Shin did not redeem any I-
Score for the bug-generated ICX or provide anything else of value in exchange for them, as users

23 are supposed to do to generate new ICX tokens. *See* Shin Depo. at 169:1-25.

24 Shin responds that he *did* provide ICON with consideration because he "contributed incredible and
incalculable value to the ICON Network by allowing ICON to detect and patch a huge issue

25 lurking in its code." Shin Oppo. 14. This argument rings hollow. Shin refused the bug-bounty.
He also used the bug to his own benefit 557 times. I take Shin's point that had he not taken

26 advantage of the Revision 9 bug so many times and to such great personal profit, ICON may have
taken longer to discover the problem. But alerting someone to a flaw in their system by repeatedly

27 taking advantage of that flaw hardly seems to qualify as "contributing incredible and incalculable
value." While my decision does not rest on this argument, Shin's lack of consideration does not

28 stack in his favor when considering whether he has a legitimate claim to exclusivity.

1 property he obtained by exploiting the bug; he received it for free.[6]

2   Shin lacks a legitimate claim to exclusivity over the bug-generated ICX. Accordingly, he

3 has no ownership or property interest in it, and his conversion claim fails as a matter of law.

4 ICON's motion for summary judgment as to Shin's claim for conversion is GRANTED.

5 **II.   TRESPASS TO CHATTELS**

6   Under California law, trespass to chattels "lies where an intentional interference with the

7 possession of personal property has proximately caused injury." *In re iPhone Application Litig.*,

8 844 F. Supp. 2d 1040, 1069 (N.D. Cal. 2012) (quoting *Intel Corp. v. Hamidi*, 30 Cal.4th 1342,

9 1350–51 (2003)). A trespasser is liable when the trespass diminishes the condition, quality or

10 value of personal property. *See eBay, Inc. v. Bidder's Edge, Inc.*, 100 F.Supp.2d 1058, 1071 (N.D.

11 Cal. 2000).

12   For the same reasons that ICON prevails on summary judgment against Shin's conversion

13 claim, it prevails on his trespass to chattels claims. The undisputed facts show that Shin has no

14 legitimate claim to exclusivity over the bug-generated ICX. *See supra*, Section I(B). There can be

15 no trespass where the defendant has interfered with property over which the plaintiff has no

16 personal right. ICON's summary judgment motion on Shin's trespass to chattels claim is

17 GRANTED.

18 **III.   UNJUST ENRICHMENT**

19   Unjust enrichment is an equitable principle that underlies "various legal doctrines and

20 remedies." *See Dinosaur Development, Inc. v. White* 216 Cal. App. 3d 1310, 1315 (1989). It is

21 "synonymous with 'restitution,'" and describes the theory that "a defendant has been unjustly

22 conferred a benefit through mistake, fraud, coercion, or request." *Astiana v. Hain Celestial Grp.,*

23 *Inc.*, 783 F.3d 753, 762 (9th Cir. 2015) (citations omitted). It is based on the idea that "one person

24 should not be permitted unjustly to enrich himself at the expense of another, but should be

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26 _____

27 [6] Shin also argues that he reported the bug to ICON via Thomas Aellis. The undisputed facts
show that he talked to Aellis as his "friend" and not as representative for ICON. Even if Shin had
reported the bug to ICON, he still exploited it 557 times for his own personal gain. Merely

28 reporting one's wrongdoing, while continuing on with that wrongdoing, does not legitimize an
otherwise illegitimate claim to exclusivity.

14

1   required to make restitution of or for property or benefits received, retained, or appropriated,

2   where it is just and equitable that such restitution be made, and where such action involves no

3   violation or frustration of law or opposition to public policy, either directly or indirectly." *See*

4   *Cnty. of San Bernardino v. Walsh*, 158 Cal. App. 4th 533, 542-43 (2007), as modified on denial of

5   reh'g (Jan. 25, 2008).

6   Unjust enrichment "applies where plaintiffs, while having no enforceable contract,

7   nonetheless have conferred a benefit on defendant which defendant has knowingly accepted under

8   circumstances that make it inequitable for the defendant to retain the benefit without paying for its

9   value." *Hernandez v. Lopez*, 180 Cal. App. 4th 932, 938 (2009). While the defendant's benefit

10   and the plaintiff's loss are often the same, the principle of unjust enrichment is "broader" than a

11   mere "restoration" of what the plaintiff lost. *See Walsh*, 158 Cal. App. 4th at 542. Indeed, where

12   "a benefit has been received by the defendant but the plaintiff has not suffered a corresponding

13   loss, or, in some cases, any loss, but nevertheless the enrichment of the defendant would be unjust

14   . . . [t]he defendant may be under a duty to give the plaintiff the amount by which [he] has been

15   enriched." *See id.* (quoting the Rest., Restitution, § 1, com. e.).

16   ICON seeks summary judgment on its unjust enrichment counterclaim, arguing that the

17   undisputed facts show that it is unjust for Shin to retain the bug-generated ICX. Shin counters that

18   ICON's unjust enrichment counterclaim fails as a matter of law because neither ICON nor any

19   other ICX holder transferred the bug-generated ICX tokens to him, so no one suffered any loss or

20   expense through his actions. Shin MSJ 11-12. His argument is unpersuasive.

21   Fundamentally, ICON does not need to establish that it, or any Network user, transferred

22   the bug-generated ICX to show that Shin was unjustly enriched by their receipt. Shin points to no

23   contrary authority. Nobody else needed to have a property interest in the tokens before Shin

24   generated them for Shin to have been unjustly enriched.[7] *See e.g.*, *Walsh*, 158 Cal. App. 4th at

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27   [7] Shin also argues that the law does not recognize an unjust enrichment claim where the benefit
was not conferred by an "identifiable entity." Here the identifiable entity was the Network,
established by ICON. Only a flaw in software that the Main P-Reps approved—Revision 9—

28   allowed his exploitation. *See supra*.

1   543 ("[t]ypically, the defendant's benefit and the plaintiff's loss are the same . . . [but] the

2   principle of unjust enrichment is broader than mere 'restoration' of what the plaintiff lost").

3   California public policy "does not permit one to 'take advantage of his own wrong'," regardless of

4   whether the other party suffers actual damage. *See Ward v. Taggart*, 51 Cal.2d 736, 741–42

5   (1959). Unjust enrichment focuses on the wrongdoer's gain, not the victim's loss. *See Walsh*, at

6   542.

7   But on top of that, Shin caused harm. He denies that, contending that ICON has not shown

8   that his actions were what caused the price of ICX to drop. *See* Shin MSJ 22-26. But his

9   argument defies common economic logic. The value of any commodity is derived at least in part

10   from its scarcity, and there is no reason why cryptocurrency would be an exception. *See* Kim Decl.

11   ¶ 34; Shin Depo. at 97:14-99:11. And it is generally true that faith in the stability and integrity of

12   a system enhances its reputation and therefore the likelihood of use of the system. *See* ICON MSJ

13   3:3-6 (observing that endorsement of Shin's claims would "make digital property value systems

14   substantially less secure"); *see* Kim Decl. ¶ 87 (asserting that Shin's sales of the bug-generated

15   ICX depressed the price of ICX and damaged ICON's reputation).

16   Shin's generation of 14 million ICX tokens on August 22, 2020, increased the total volume

17   of ICON's cryptocurrency and lessened its scarcity. After ICON's public disclosure of what Shin

18   did on August 22, 2020, the price of ICX decreased by nearly 40% in the two weeks following.[8]

19   Shin objects to ICON's evidence in support for its claims of damage to its value. *See* Reply in

20   Support of Shin MSJ (Evidentiary Objections) [Dkt. No. 192] 5-6 (objecting to Kim Decl. ¶ 87,

21   which states that "'Shin's substantial sales of the Bug-Generated ICX had the effect of depressing

22   the price of ICX and damaging the reputation of the ICON Network. In the two-week period

23   between August 24 and September 5, 2020, when Shin's exploit became widely known within the

24   ICON community, the price of ICX decreased by almost 40%, from 65 cents to 40 cents.'"); *see*

25   *also* Shin MSJ 22-26 (arguing that ICON has not produced sufficient proof that Shin's actions

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27   [8] Shin's "finders keepers" argument is also unavailing. *See* Shin MSJ 16-18. Shin did not "find"
the bug-generated ICX. He intentionally produced it via a bug in someone else's software. The
28   ICX would not have existed but for his repeated triggering of the bug in question. This was not
"abandoned property, [a] treasure trove, or lost property." *See* Shin MSJ 16.

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1   were responsible for its downturn in currency price following the Revision 9 bug). But it seems

2   implausible that Shin's actions did not have a detrimental impact in some way on the Network,

3   either by decreasing the scarcity of ICX tokens or by damaging its reputation or both.

4   The parties argue over the applicability of a case that ICON cites in response to Shin's

5   summary judgment motion, *Hernandez v. Lopez*, 180 Cal. App. 4th 932 (2009). There, the

6   defendants began the process of purchasing the plaintiffs' restaurant, never closed escrow, but

7   then purported to resell the restaurant they did not own to a third party and retained all the

8   proceeds for themselves. The plaintiffs sued for conversion, trespass, and unjust enrichment. The

9   trial court dismissed their case for failure to state a claim and allowed the defendants to keep the

10   proceeds of the sale. In reversing the trial court's decision, the California Court of Appeal

11   explained that the unjust enrichment doctrine applies "where plaintiffs, while having no

12   enforceable contract, nonetheless conferred a benefit on defendant which defendant has *knowingly*

13   *accepted* under circumstances that make it *inequitable for the defendant to retain the benefit*

14   without paying for its value." *Hernandez*, 180 Cal. App. 4th at 938-39 (citing *Dunkin v. Boskey*,

15   82 Cal. App. 4th, 171, 195 (2000)) (emphasis added). The court also noted that " '[i]n the modern

16   legal usage, [the term unjust enrichment]'s meaning has frequently been extended to include not

17   only the restoration or giving back of something to its rightful owner, but also compensation,

18   reimbursement, indemnification, or reparation for benefits derived from, or for loss or injury cause

19   [sic] to, another.'" *Id.* at 939. " 'The phrase 'unjust enrichment' does not describe a theory of

20   recovery, but an effect: the result of a failure to make restitution under circumstances where it is

21   equitable to do so.'" *Id.* (quoting *Dunkin*, at 198).

22   Shin asserts that *Hernandez* considered a "textbook example" of unjust enrichment that

23   compelled a "morally obvious rule," which is "inapposite to the facts of this case." Shin Reply

24   [Dkt. No. 192] 11. I do not agree. *Hernandez* stands for the principle that unjust enrichment

25   exists when someone has retained a profit that they should not have because they made that profit

26   via inequitable means, regardless of whether that profit was derived from or equal to the plaintiff's

27   loss. This rule applies here. That Shin received a benefit is not disputed. Even though many of

28   the ICX tokens were frozen or seized, Shin acquired other assets with some of the tokens that were

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1   not frozen or seized and transferred several thousand others to his family and friends. He was able

2   to spend more than $1 million of the bug-generated ICX before any of it was frozen by the Main

3   P-Reps or the exchanges. Dkt. 173 ¶ 2, Ex. 1 at pp. 243:1-6. His actions were inequitable not only

4   because he caused ICON direct harm, which he disputes, but also because he exploited, received,

5   and knowingly retained a benefit that was conferred to him via his willful decision to manipulate

6   what he understood to be a flaw in the Network, which he concedes.

7   There may be a factual dispute about the degree to which Shin's actions drove ICON's

8   downturn in token price. That dispute is immaterial, because to prevail on its unjust enrichment

9   counterclaim ICON need not show that Shin caused it harm. Unjust enrichment is an equitable

10   claim, the remedies for which are designed to fill in the gaps left by an absence of contract or other

11   protective law. Shin was unjustly enriched by exploiting the bug in the software 557 times. It

12   would be inequitable to allow him to retain any benefit from that conduct.

13   For the reasons described throughout this Order, ICON's Motion for Summary Judgment

14   on its unjust enrichment claim is GRANTED. Shin's Motion for Summary Judgment on the same

15   is DENIED.

16   **IV.   DECLARATORY RELIEF AND REMEDY**

17   ICON also seeks declaratory relief. It wants a court order requiring that the bug-generated

18   ICX be destroyed and that the crypto assets that Shin acquired with the bug-generated ICX be

19   converted back into ICX and then destroyed. ICON MSJ 25; Opposition to Shin MSJ ("ICON

20   Oppo.") [Dkt. No. 188] 20-25. It "predicates its declaratory relief claim on two, related, but

21   different equitable remedies—nonrestitutionary disgorgement and constructive trust." *See* ICON

22   Oppo. 20-21. Shin responds generally that ICON's proposed remedy "does not achieve equity"

23   and "seeks to turn this court into a tool of [ICON's] own market manipulation." Reply in Support

24   of Shin MSJ [Dkt. No. 192] 16-18. It is unclear from his arguments whether he asserts that any of

25   the seized assets were acquired independent from the bug-generated ICX.

26   As I stated at oral argument, the determination of the equitable remedy requires more

27   attention. Shin shall file a memorandum of no more than 10 pages within two weeks explaining

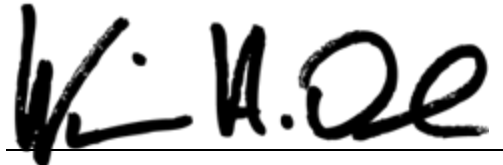28   why ICON's request is inequitable and making any appropriate counter proposal. ICON may

respond two weeks thereafter with a memorandum of no more than 10 pages. Shin may reply a

week after that with a memorandum of no more than five pages. I will set a hearing if necessary

after reviewing the briefing.

CONCLUSION

ICON's Motion for Summary Judgment on Shin's conversion and trespass to chattels

claims and on its unjust enrichment counterclaim is GRANTED and those claims are dismissed

with prejudice. Shin's Motion for Summary Judgment on ICON's unjust enrichment claim is

DENIED.

IT IS SO ORDERED.

Dated: June 6, 2024

William H. Orrick
United States District Judge

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